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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/064,724	08/09/2002	Everett Anderson	PES-0059P	4233
23462	7590	09/03/2004		
CANTOR COLBURN, LLP 55 GRIFFIN ROAD SOUTH BLOOMFIELD, CT 06002			EXAMINER CANTELMO, GREGG	
			ART UNIT 1745	PAPER NUMBER
DATE MAILED: 09/03/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/064,724	<b>Applicant(s)</b> ANDERSON ET AL.	
	<b>Examiner</b> Gregg Cantelmo	<b>Art Unit</b> 1745	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 6/14/04.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 and 14-27 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-8, 14-16, 19-21 and 25 is/are allowed.
- 6) ☒ Claim(s) 9-12, 22, 23 and 26 is/are rejected.
- 7) ☒ Claim(s) 17, 18, 24 and 27 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/26/02 &amp; 8/11/04</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

1. In response to the amendment received June 14, 2004:
  - a. The issues to the IDS filed October 7, 2002 is further addressed below.  
Item 22 still has not been considered;
  - b. The specification objection is withdrawn in light of the amendment to the first sentence updating the status of the prior U.S. application;
  - c. The prior art rejections of record are withdrawn as applied to the amended claims.

### ***Information Disclosure Statement***

2. With respect to the IDS filed October 7, 2002: Item 22 has not been considered. The cited reference is drawn to 22 pages of abstracts and it is unclear as to which of these documents are relevant. For example, it is unclear how abstracts 1, 4 and 6 are relevant.

### ***Response to Arguments***

3. Applicant's request for consideration of item 22 in the IDS filed October 7, 2002 has not been granted. Again, this citation is to 22 *distinct* and *different* abstracts and it is unclear which of these documents listed within the citation are pertinent to the claimed invention. If Applicant still desires to have specific references within the

multitude of references disclosed in Item 22 that each pertinent abstract therein should be cited in an IDS as separate documents.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 9-12, 22, 23 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. patent No. 5,324,565 (Leonida).

Leonida discloses an electrochemical cell collector plate comprising: first and second metal foils 19 and 21 and a layer disposed between the foils comprising an integral mixture of an electrically conductive material 15 and an elastomeric material 13' (Fig. 5) wherein the conductive material is copper (prior art claim 4 as applied to claims 9 and 22).

The foils 19 and 21 can be copper, nickel, stainless steel, etc. (col. 6, ll. 37-41 as applied to claims 10, 11 and 22).

The elastomeric material can be a fluorosilicone (col. 1, ll. 29-54 as applied to claim 12).

The conductive material can alternatively be silver (prior art claim 4 as applied to claim 23).

The metal foils 19 and 21 are in physical contact with the layer of electrically conductive material 15 and an elastomeric material 13' (Fig. 5 as applied to claim 26).

***Allowable Subject Matter***

6. Claims 1-8 and 14-16, 19-21 and 25 are allowed.
7. The following is an examiner's statement of reasons for allowance: none of the prior art of record are considered to teach, suggest or render obvious the electrochemical cell of claim 1 wherein an electrically conductive pressure pad adjacent the first flow field and the first electrode comprises an integral mixture of a substoichiometric oxide of titanium and an elastomeric material.

While Clarke teaches of providing substoichiometric titanium oxides in electrochemical cells there is insufficient teaching or motivation for using this material in the electrically conductive pressure pad of WO '362. The combination of references fails to sufficiently suggest providing the pressure pad mixture of claim 1.

With respect to claim 14 none of the prior art of record are considered to teach, suggest or render obvious the invention of claim 1 wherein the mixture of the electrically conductive material and elastomeric material is present in the active area of the collector plate and wherein a nonconductive material is present in an inactive area of the collector plate.

With respect to claims 15 and 16 see item 17 of the previous office action, incorporated herein.

With respect to claim 19, none of the prior art of record are considered to teach, suggest or render obvious the electrochemical cell of claim 19 wherein an electrochemical cell collector plate comprises a first metal foil, second metal foil and a layer disposed between the foils wherein the layer comprises an integral mixture of an electrically conductive material and an elastomeric material.

Michalchik discloses of a layer of an integral mixture of electrically conductive material and elastomeric material disposed between metal substrates but does not teach or reasonably suggest this structure in combination with an electrochemical cell as defined in claim 19.

WO '362 discloses providing an electrically conductive pressure pad but this pad is only a layer of an integral mixture of electrically conductive material and elastomeric material and there is no teaching or reasonable suggestion to provide this layer between metal foils as defined in claim 19.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

8. Claims 17, 18, 24 and 27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. The following is a statement of reasons for the indication of allowable subject matter: none of the prior art of record are considered to teach, suggest or render

obvious an intermediate layer comprising an integral mixture of an electrically conductive material and an elastomeric material wherein the electrically conductive material comprises a substoichiometric oxide of titanium represented by the formula  $Ti_nO_{2n-1}$ , where N is an integer of 4 or more (claim 17) or wherein the electrically conductive material comprises a substoichiometric oxide of titanium (claim 24) or wherein the first metal foil comprises a flow field (claim 27).

With respect to claims 17 and 24:

Michalchik discloses of a layer of an integral mixture of electrically conductive material and elastomeric material disposed between metal substrates but does not teach or reasonably suggest this structure in combination with an electrochemical cell as defined in claim 19.

WO '362 discloses providing an electrically conductive pressure pad but this pad is only a layer of an integral mixture of electrically conductive material and elastomeric material and there is no teaching or reasonable suggestion to provide this layer between metal foils as defined in claim 19.

With respect to claim 27: none of the prior art of record are considered to teach, suggest or render obvious providing a flow field in the first metal foil.

The metal foil of Leonida is a unitary sheet void of any flow field and neither Leonida nor the remaining prior art of record teach or suggest of the electrochemical cell collector plate of claim 27 having a flow field in the first metal foil.

***Conclusion***

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregg Cantelmo whose telephone number is (571) 272-1283. The examiner can normally be reached on Monday to Thursday from 9 a.m. to 6 p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pat Ryan, can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. FAXES received after 4 p.m. will not be processed until the following business day. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published




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applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Gregg Cantelmo  
Primary Examiner  
Art Unit 1745

gc

A handwritten signature in cursive script, appearing to read "Gregg Cantelmo".

August 30, 2004